

# SUMMARY

In conclusion, these tests showed that, overall, there are emissions advantages to using alternative fuel over gasoline. The following points summarize the comparison between each alternative fuel and gasoline.

## METHANOL VEHICLES

- NMHC was significantly lower in M85 tests for both the Intrepid and Spirit.
- CO emissions were slightly higher for the M85 tests on the Intrepid and lower for the M85 tests on the Spirit. These differences, however, tended not to be significant at the 95% confidence level.
- NO<sub>x</sub> emissions tended to be significantly higher in the M85 tests for both FFV models.
- Greenhouse gases (CO<sub>2</sub> and CH<sub>4</sub>) were significantly lower in the M85 tests for both FFV models.
- Formaldehyde was significantly increased for the M85 tests, but acetaldehyde was significantly decreased.
- Benzene and 1,3-butadiene levels were significantly lower for the M85 tests.
- Evaporative results were varied, but tended not to be significant at the 95% confidence level.
- PWT, OFP, and SR were all significantly lower in the M85 tests for both FFV models.

## ETHANOL VEHICLES

- Regulated emissions for the Taurus showed no significant difference between fuels.
- Regulated emissions results for the Lumina were mixed: NMHC tended not to be significant between fuels, CO emissions were higher (but not significantly) for the E85 tests, and NO<sub>x</sub> emissions were significantly lower for the E85 tests.
- CO<sub>2</sub> emissions were significantly lower for the tests on E85 for both FFV models.
- CH<sub>4</sub> emissions were significantly higher for the tests on E85 for both FFV models.
- Formaldehyde and acetaldehyde emissions were significantly higher for the tests on E85 for both FFV models.
- Benzene and 1,3-butadiene levels were significantly lower for the E85 tests.
- Evaporative emissions for the ethanol FFVs tended to show no significant difference between fuels.
- PWT and SR were significantly lower for the E85 tests on the FFV Taurus.
- OFP was significantly higher for the E85 tests on the FFV Taurus.

## CNG VEHICLES

- NMHC emissions for the CNG models were significantly lower than those of the gasoline vehicles.
- CO emissions were significantly lower for the CNG vans.
- NO<sub>x</sub> emissions results were mixed, but tended to be significantly lower for the CNG tests.
- CO<sub>2</sub> emissions were significantly lower for the CNG tests.
- CH<sub>4</sub> emissions were significantly higher for the CNG tests.
- Formaldehyde emissions tended to be significantly lower for the CNG tests.
- Acetaldehyde emissions from the CNG vehicles were significantly lower than the gasoline tests.
- Evaporative emissions results were significantly lower for the CNG tests.
- PWT, OFP, and SR were significantly lower for the CNG tests.